

WHAT IS CLAIMED IS:

1. A permanent magnet motor which comprises, as an assembly:

(a) a stator having a plurality of stator teeth; and

(b) a rotor coaxially inserted into the stator, which is a cylindrical permanent magnet having magnetically anisotropic orientation in a single diametral direction perpendicular to the cylinder axis and magnetized to have a plurality of evenly disposed magnetic poles around the circumference of the cylinder,

in which the number of the magnetic poles  $k$  of the rotor is an even number not exceeding 100 and the number of the stator teeth  $n$  is equal to  $3n_0$ ,  $n_0$  being a positive integer not exceeding 33, with the proviso that  $k$  is not equal to  $n$ .